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NOTE TO EDITORS

James M. Beggs, Administrator of the National Aeronautics and Space Administration, will deliver the attached remarks in Tokyo on May 10 (May 9 in the United States) to the Federation of Japanese Economic Organizations.. He will be in Tokyo to sign a memorandum of understanding under which Japan will participate in Space Station design studies.

In this talk Mr. Beggs:

- o Introduces the concept of a space-based industrial park
- o Outlines initial uses of the Space Station
- o Reports on specific projects being undertaken by other countries participating in development of the Space Station
- o States that all participating countries will have access to all Space Station facilities and that technology and "intellectual property" developed by individual countries in connection with the project will be protected.
- o States that international cooperation in a manned lunar base and a manned mission to Mars "could well follow" the Space Station, and would enhance prospects for peace on Earth and in space.

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REMARKS PREPARED FOR DELIVERY TO KEIDANREN:
(FEDERATION OF JAPANESE ECONOMIC ORGANIZATIONS)

JAPAN VISIT, MAY 1985

JAMES M. BEGGS, NASA ADMINISTRATOR

Thank you very much. I am delighted to be here.

On behalf of President Reagan and the Government of the United States, let me say that we are very pleased that Japan has agreed to work with us on parallel studies over the next two years as we define and begin to design the permanently manned Space Station. We look forward to working closely with you and our other friends and allies in Europe and Canada in a continuing partnership to develop, build and use the Space Station through the end of this century and well into the next.

Some years ago, I saw a sad and beautiful Japanese film called "Rashomon." In it, the same story is told through the eyes of several different people. As their various points of view unfold, it becomes clear that no one person sees the same events the same way. Rather, like various artists painting the same landscape, each character in the film casts the story from his or her own perspective.

In this way, "Rashomon", though set in the distant past, mirrored the modern world. We all bring different hopes and aspirations to our lives. And we all see events through the prism of our experience and interests.

But no matter how our perceptions may differ, in the end we have found that, as free people, we can share the same dream. And that dream is brighter future for humanity, as we work together to open space for peaceful purposes and for the benefit of all.

The Space Station will help to bring that dream alive.

It has been almost 16 months since President Reagan, in his annual State of the Union message to the American people, directed NASA to build a permanently manned Space Station and to do it within a decade. The President also invited our friends and allies in Japan, Europe and Canada to join with us in developing, operating and using the Space Station. And he proposed a new government-industry partnership to stimulate investment and involvement in space-based business.

The President called the Space Station the "next logical step in space". And indeed, it is. It will be different from any project ever before attempted in space. It will be manned at all times and be operated continuously. It will be modular so that its capabilities can be expanded with new components as new needs arise. And it will give us the means to do things in space we've never been able to do before.

When it is up and operating in the early to mid-1990s, the Space Station will be the catalyst for expanding the peaceful uses of space for scientific, industrial and commercial gain. The Station will serve as a laboratory for materials processing and industrial and scientific research; as a permanent observatory for astronomy and earth observations; as a storage and supply depot and as a base from which to service other satellites or satellite clusters, which will form the world's first space-based industrial park.

There will be other uses for the Space Station, perhaps some that we have not yet thought of. But we now have a good idea of how we will want to use the station initially. These utilization concepts were developed by Mission Requirements Studies done over the past three years by government and industry here in Japan, in the United States and in Europe and Canada. The studies determined the needs of potential Space Station users in the scientific, academic, industrial and commercial communities. They laid the groundwork that has allowed us to proceed together to the next phase of Space Station development - the definition and preliminary design phase.

The document we signed here this week, and similar documents we signed earlier with our Canadian and European friends, set the framework for an international partnership over the next two years that will meet the requirements of all nations involved. They assure that our partners' efforts and ours will run parallel and that we will cooperate closely to evolve a Space Station design that will serve all our interests for the long-term.

Potential international contributions to the Space Station could prove extremely valuable in expanding its capabilities. For example, we are very pleased that Japan is studying a multi-purpose experiment module that could contain both pressurized and unpressurized work space.

The European Space Agency has been looking at the development of pressurized modules, unmanned space platforms and ground support facilities. And the Canadians are very interested in expanding their experience with the Remote Manipulator System - the Shuttle's robot arm - in the servicing and payload handling area, in solar energy collection and in instruments for free-flying, unmanned polar-orbiting platforms.

The Space Station will help us all tap the limitless potential of space for economic development. Many observers believe that space-based commerce will be one of the greatest growth industries of the next 20 years.

President Reagan said just a few weeks ago, "before the end of the century, many billions of dollars of commercial activity will be taking place in and because of space." Some members of the United States Congress believe that activity could generate a half-a-trillion-dollar industry worldwide by the turn of the century, and one that will provide 20,000 new jobs in the century's first decade.

The communications satellite business is certainly the most visible example of a successful space enterprise thus far. It has grown into a \$3 billion a year business, and is projected to expand at a rate of 20 per cent a year through the turn of the century.

Remote sensing, advanced electronics, robotics, ground servicing facilities and other space-related activities all will benefit as we continue to push back the economic frontier of space.

Space has many unique characteristics. Among them are microgravity, which produces a weightless condition; an infinite, pure vacuum; and a remarkable vantage point for observing the earth and the universe.

Many companies are investigating the commercial potential of these features. And, in the process, they are doing some very exciting things.

Johnson & Johnson and McDonnell Douglas, for example, are finding that a laboratory technique known as electrophoresis, works much better in space than on earth. The process separates materials from a biological mass by means of an electrical charge. They have adapted the technique for space operations and are using it on the Shuttle to test-manufacture a hormone with the potential to save thousands of people's lives every year. They expect to produce it on orbit and in much greater quantity and in greater purity than is possible on earth.

The John Deere Company, an agricultural implements manufacturing firm, is experimenting with developing new alloys in space with the hope of learning how to duplicate them on earth.

And the giant 3M Company is developing organic crystals and very thin industrial films in space. They are very enthusiastic about results so far and have proposed a ten-year plan during which NASA would fly 72 of their experiments. They also want to build a research laboratory as part of the Space Station. Chances are that NASA will approve their plan. And if we do, it will mark our first commitment to a long-term cooperative venture involving space-based research, development and manufacturing.

Very soon, the first products made in space will go on sale. They are incredibly tiny, perfect polystyrene spheres - about 10 micrometers in diameter. They will be marketed to calibrate scientific instruments and as a tool to measure very small objects. Their market potential has been estimated at between \$200 and \$300 million a year.

Much of the enthusiasm for space-based ventures in the United States has been generated over the past two years by President Reagan's policies. The President's vigorous support of expanded private sector investment and involvement in space has given the business and financial community the confidence to go ahead.

Investors understand that the rewards may be slow in coming. Investments generally will not pay off before 15 or 20 years. But they also believe that the bounty can be worth waiting for. Indeed, in Shakespeare's words, it can be "as boundless as the sea."

Our international partners on the Space Station will share in that bounty. Over time, the benefits they will reap will far outweigh the costs of their investments.

Although the United States is committed to building the Space Station alone, if necessary, we are delighted that our international partners are moving with us into this initial phase. And we look forward to continued joint cooperation with Japan and our other friends as the program moves ahead.

In that connection, let me say that in negotiating with our potential partners, NASA has emphasized that we view the Space Station as a potential long-term international partnership - one that should last for decades. Any nation that joins with us in such a full partnership must be prepared to make significant investments in the Station, and also be prepared to help operate and use it.

We expect our partners to continue to shoulder responsibility for owning and maintaining their portions of the facility, while continuing to enjoy the overall benefits our joint efforts will make possible. And we expect their contributions to remain a permanent part of the Station's infrastructure.

But, as the ancient Greek dramatist Euripides once wrote, "Joint undertakings stand a better chance when they benefit both sides."

To cement our long-term relationships, the United States will provide partners with assurance on equitable access to all of the Space Station's facilities. We also will protect their technology and intellectual property and ensure them suitable roles in the Station's management and operation.

The Space Station effort will span decades because the Station will grow in capacity and capabilities as new technologies emerge and new needs arise. It will be the largest and most difficult engineering challenge of the Space Age. Full partnership with international participants will mean that we will be negotiating further agreements on subjects ranging from housekeeping arrangements and crew and laboratory time to customer charges and the use of launch facilities.

Clearly, there will be much give and take on all sides in future negotiations. But if we and our international partners can learn to work together on a project of this scope, I am confident that we will have built a framework for other, more ambitious joint endeavors in the future.

Indeed, such missions as the development of a manned lunar base or a manned mission to Mars could well be followed by the Space Station. Missions of this kind could have universal appeal and would inevitably bring the world's peoples closer together. Thus they would enhance the prospects for peace on earth and in space.

The great adventure we call space exploration has been going on for only a little more than a quarter of a century, merely a whisper in time. But in that period, we have advanced our knowledge of ourselves and our place in the universe further than in any period in history.

Today we go into space routinely with the Shuttle. We are learning to live and work there. But this is only a beginning.

The future holds great promise. Given human ingenuity, human imagination and the age-old human quest for new knowledge, our achievements could surpass even our wildest dreams today. As President Reagan has said: "There are no constraints on the human mind, no walls around the human spirit, no barriers to our progress except those we ourselves erect."

Indeed, there is no limit to what free people can achieve because freedom is humanity's most precious resource. It allows us to think, to explore, to dream and to transform our dreams into reality.

Americans and free people everywhere would have it no other way. And this is why we will continue to grow and prosper.

Thank you very much.

Administrator's Column

(In this column NASA Activities features an article by NASA Administrator James M. Beggs. These articles focus on subjects chosen by him that address topics of broad interest to the agency's employees. The column this month features an address presented to Keidanren (Federation of Japanese Economic Organizations) in Tokyo, Japan.



Man's Permanent Presence in Space

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A crystal growth experiment aboard Spacelab.

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An artist's concept of a 21st century lunar base.

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Solar Energy Systems Power African Villages

Some 3,000 residents in the Republic of Gabon, Africa, are beginning to benefit from space age technology. Solar-powered community service systems have been installed in four rural villages to improve public health and educational facilities, lighting and sanitary water supplies.

The purpose is to demonstrate the feasibility of using solar photovoltaic power systems as an energy source in a remote, rural, tropical environment and to determine the impact of these systems on the social and economic development in the villages.

NASA's Lewis Research Center, Cleveland, is managing the project, jointly funded by the U.S. Department of Energy (DOE) and the Ministry of Energy and Hydraulic Resources of the Republic of Gabon.

The Government of Gabon selected the villages of Onguia-Bougandji, Nyali, Donguila and Bolossoville for the demonstration.

A photovoltaic power system, lights, air circulation fan, and a refrigerator/freezer for vaccine storage have been provided for each village dispensary. A photovoltaic power system, lights, and a color television and video cassette recorder/player have been provided for each village school except Bolossoville, where the system has been located in the community building.

The sanitary water system has a newly-drilled well, a solar photovoltaic system, a submersible well pump, a water storage tank, and a water distribution system which pipes water to village fountains. The public lighting system includes a photovoltaic power system and a low pressure sodium vapor lamp mounted on a pole. All four systems are instrumented and data are being recorded daily for performance analyses.

According to Tony Ratajczak, project manager for Lewis, the goal of DOE and the Republic of Gabon for this project is to investigate and evaluate the economic, social and technical value of photovoltaic power systems in aiding progress and improving the quality of life in Gabon.

Because of very low population density and very poor roads in most villages, the Gabonese government is